

**ABSTRACT**

A piezoelectric element is manufactured by applying a masking agent to a surface of a piezoelectric material to form a film of the masking agent on the surface of the piezoelectric material. The film of the masking agent is patterned into a masking pattern. Oil repellent is selectively applied to surface portions of the substrate which are not covered with the patterned film. The patterned film is held in contact with a vapor of a solvent for the masking agent, diluted with an inert gas, to fluidize the film to a domed shape on the surface of the piezoelectric material. The diluted vapor is formed by bubbling the solvent with the inert gas. The dome-shaped film is then cured and the piezoelectric material is dry etched together with the cured film to process the piezoelectric material into a three-dimensional convex profile corresponding to the thickness distribution of the domed shape.